a front surface/back surface position detector for continuously detecting a position on said conveyor of both a front surface and a back surface of an article that is moved by said conveyor, and

an image data input focus point control section for outputting data from said front surface/back surface position detector to said image data input focus point modifier.--

REMARKS

Claims 1-6 are pending in this application for which applicant respectfully requests reconsideration.

The present application contains one independent claim, which has been further amended to improve its readability, and to clarify that a front surface/back surface position detector <u>continuously</u> detects a position on the conveyor of both the front and back surfaces of the conveyed article.

The examiner previously rejected claim 1, as well as depending claims 2-6, based on the combination of Bridgelall (USP 5,525,788) in view of Inagaki (JP 3-1285) and Nishimura (USP 5,436,439). The premise behind this rejection appears to be that Inagaki teaches the concept of scanning both the front and rear surfaces, and Nishimura teaches the concept of detecting the leading and trailing edges of an article. Applicant previously traversed this rejection because these references do not provide any motivation for the combination suggested by the examiner, and as the examiner did not provide any convincing line of reasoning as why an ordinary artisan would have scan leading and trailing surfaces of a constantly moving object using a position detector to calculate the distance between the surfaces being scanned and the symbol reading devices for focusing the scanning beams.
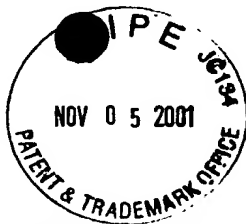
In issuing the Advisory Action, the examiner has not responded to applicant's reply. The examiner merely recited that the applied references "meet the claimed limitations." The prevailing issue before the examiner and before the Board of Appeals is whether 1) any motivation for the combination exists and 2) if so whether the combination would have taught the claimed invention. In this regard, for purpose of an Appeal, applicant requests the examiner to address the first issue.

In particular, as previously expressed, to make a proper § 103 rejection, the examiner must first establish prima facie obviousness by identifying a teaching or suggestion of the desirability of doing what the inventors here have done. This can only be established if the applied reference(s) expressly or implicitly suggest the claimed invention or if the examiner presents a convincing line of reasoning as to why an ordinary artisan would have found the claimed invention to be obvious in light of the teachings of the applied reference(s). The suggestion or the examiner's reasoning, however, must be objective and supported by evidence.

Here, the applied references do not provide any motivation for one skilled in the art to do what the examiner has suggested, i.e., modify Bridgelall so that it is able to detect the leading and trailing edges of a conveyed object to determine the scan distance and further modify Bridgelall so that it can scan both leading and trailing surfaces of the conveyed object using the distance information. Indeed, carrying out the modification as suggested by the examiner will eviscerate Bridgelall's invention. Bridgelall discloses a scanning system with a focusable scanner 40, which is focusable using internal feedback signals, fuzzy logic, or via external signals, such as a CCD/CMD article processor 618. Bridgelall discloses locating a bar code symbol on the article with an image camera and then focusing at the symbol caught by the camera from a fixed distance. Bridgelall does not go into the details as to how the scanning beams are focused. Nonetheless, one thing is clear, Bridgelall does not teach or disclose focusing the scanning beams by calculating the distance between the scanner and the surface being scanned via detecting the leading and trailing edges of the conveyed object.

More specifically, Bridgelall teaches rescanning the barcode only if it is invalid, and then to adjust the optimum focus. Bridgelall does not teach continuously adjusting the focus. In this respect, claim 1 has been amended to further define the present invention by calling for continually adjusting the focus. Neither do Nishimura and Inagaki provide any motivation for Bridgelall to continuously detecting the position of the front and back surfaces of the article on the conveyor. Inagaki at best teaches scanning both the front and rear surfaces of an object by placing two discreet scanning systems at different locations, one facing the front surface and another facing the rear surface.

Nishimura does not teach or disclose detecting the leading and trailing edges of a moving object to calculate the distances between the scanners and the surfaces to be scanned.

Conclusion

The combination would have been improper, and even if it were proper, it would not have taught detecting the leading and trailing edges of a moving object to continuously calculate the distances between the scanners and the surfaces to be scanned. Accordingly, applicant urges the examiner to issue an early Notice of Allowance.

Respectfully submitted,

Date: <u>November 5, 2001</u>

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
   Kazuo ISHII

Serial No.: 09/320,457

Filed: May 27, 1999

For: OPTICAL SYMBOL READING DEVICE

Group Art Unit: 2876

Examiner: J. Fureman

Attorney Docket No.: 40373/255

COMMISSIONER OF PATENTS
  WASHINGTON, D.C. 20231

MARKED UP VERSION

Claim 1 has been amended as follows:

1. (Twice Amended) An optical symbol reading device comprising:

an image data input section [which includes] **including** a front surface symbol reading device and back surface symbol reading device, [that is provided with] an image data input unit for receiving a bar code label, characters, symbols, or image data on an article that is moved by a conveyor, and an image data input focus point modifier;

an article detector for detecting that said article has entered a read zone;

an interpreter for converting electric signals from said image data input section to numbers or characters; an interpretation result output section for outputting the interpretation results of said interpreter to an external device;

a front surface/back surface position detector for **continuously** detecting a position on said conveyor of both a front surface and a back surface of an article that is moved by said conveyor, and

an image data input focus point control section for outputting data from said front surface/back surface position detector to said image data input focus point modifier.